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In the Claims

1. (currently amended) An acetabular reamer for cutting a required overall cut shape defining a continuous macro geometric profile, the reamer comprising a cutting shell having a series of cutting teeth thereon, wherein ~~substantially all~~ at least two of the teeth have a matched arc cutting edge of substantial length connected to the shell by adjacent rise portions, the matched arc cutting edge following along defining a segment of a substantial portion of the macro geometric profile of the overall cut shape ~~a longer, single matching curve which makes up at least a portion of the cutting profile of the overall cut shape to be cut, the segment, and, when combined with that of the other of the at least two one other such teeth~~ teeth on the reamer, the combination making up a further substantial at least a portion of the macro geometric cutting profile to be cut, thereby reducing a number of teeth required to cut the macro geometric profile of the overall cut shape.

2. (original) The reamer of claim 1 wherein a generally circular hole precedes the cutting edges as the reamer is rotated for cutting.

3. (currently amended) The reamer of claim 1, wherein the reamer includes a series of cutting teeth ~~are~~ arranged uniformly and spaced apart on the cutting shell.

4. (currently amended) The reamer of claim 3 ~~4~~, wherein the series of cutting teeth are arranged in a spiral arrangement on the cutting shell.

5. (previously presented) The reamer of claim 1, wherein the cutting shell is a portion of a sphere in which the length of the cutting edges are selected so as to completely cut the shape, thereby enabling the use of fewer teeth than permissible with a cutting shell that has a more complete hemispherical shape.

6. (original) The reamer of claim 5, wherein the cutting shell is a hemisphere or portion thereof.

7. (original) The reamer of claim 2, wherein the series of cutting teeth are arranged uniformly and spaced apart on the cutting shell.

8. (original) The reamer of claim 2, wherein the cutting teeth are arranged in a spiral arrangement on the cutting shell.

9. (original) The reamer of claim 3, wherein the cutting teeth are arranged in a spiral arrangement on the cutting shell.

10. (previously presented) The reamer of claim 2, wherein the cutting shell is a portion of a sphere in which the length of the cutting edges are selected so as to completely cut the shape, thereby enabling the use of fewer teeth than permissible with a cutting shell that has a more complete hemispherical shape.

11. (previously presented) The reamer of claim 3, wherein the cutting shell is a portion of a sphere in which the length of the cutting edges are selected so as to completely cut the shape, thereby enabling the use of fewer teeth than permissible with a cutting shell that has a more complete hemispherical shape.

12. (previously presented) The reamer of claim 4, wherein the cutting shell is a portion of a sphere in which the length of the cutting edges are selected so as to completely cut the shape, thereby enabling the use of fewer teeth than permissible with a cutting shell that has a more complete hemispherical shape.

13. (new) An acetabular reamer for cutting a shaped cavity into a bone, the cavity to be cut having a smooth contour cavity surface, the reamer comprising:

- a cutting shell having an outside cutting surface from which cutting surface project a plurality of cutting teeth;
- the cutting teeth being doubly curved cutting teeth and having a matched cutting edge with a length;
- the matched cutting edge having a cutting profile along the length which

matches the contour of the cavity surface to be cut; and

- the matched cutting edges of the cutting teeth positioned on the reamer cutting surface in an overlapping arrangement, so that rotation of the cutting shell against the bone cuts the shaped cavity into the bone having the smooth contour cavity surface, the cut smooth contour having a cavity surface length greater than the length of a single matched cutting edge.

14. (new) An acetabular reamer for cutting a shaped cavity into a bone, the cavity to be cut having a smooth contour cavity surface, the reamer comprising:

- a cutting shell having an outside cutting surface from which cutting surface project a plurality of cutting teeth;
- the cutting teeth being doubly curved cutting teeth and having a matched cutting edge with a length;
- the matched cutting edge having a cutting profile along the length which matches the contour of the cavity surface to be cut; and
- the matched cutting edges of the cutting teeth positioned on the reamer cutting surface in an overlapping arrangement, so that rotation of the cutting shell against the bone cuts the shaped cavity into the bone having the smooth contour cavity surface, the cut smooth contour having a cavity surface length greater than the length of a single matched cutting edge.